

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2004/019457

A. CLASSIFICATION OF SUBJECT MATTER
H01L27/15 H01L33/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
HOIL

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal , WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate of the relevant passages	Relevant to claim No
X	US 2003/160256 A1 (DUROCHER KEVIN MATTHEW ET AL) 28 August 2003 (2003-08-28)	1, 2, 12
Y	paragraph '0024! - paragraph '0071!;	3-11
A	figures 2-13	13
X	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 03, 5 May 2003 (2003-05-05) - & JP 2002 324915 A (NICHIA CHEM IND LTD), 8 November 2002 (2002-11-08)	1, 2, 12
Y	abstract	3-11
A	paragraph '0019! - paragraph '0064!; figures 1,2	13
	----- -/-	

☒ Further documents are listed in the continuation of box C

☒ Patent family members are listed in annex

* Special categories of cited documents

- "A" document defining the general state of the art which is not considered to be of particular relevance
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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the International filing date but later than the priority date claimed

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- "X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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Date of the actual completion of the international search

5 December 2005

Date of mailing of the international search report

14/12/2005

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 11, 30 September 1999 (1999-09-30) -& JP 11 150303 A (SANYO ELECTRIC CO LTD), 2 June 1999 (1999-06-02) abstract	1, 2, 12
Y		3-11
A		13
X	----- US 6 373 188 B1 (JOHNSON BURGESS R ET AL) 16 April 2002 (2002-04-16)	13
A	column 3, line 38 - column 6, line 21; figures 1-3	1-12
A	----- PATENT ABSTRACTS OF JAPAN vol. 2000, no. 16, 8 May 2001 (2001-05-08) -& JP 2001 015817 A (MATSUSHITA ELECTRONICS INDUSTRY CORP), 19 January 2001 (2001-01-19) cited in the application abstract	1-13
A	----- US 2002/139987 A1 (COLLINS WILLIAM DAVID ET AL) 3 October 2002 (2002-10-03) paragraph '0017! - paragraph '0031!; figures 3-15	1-13
E	----- WO 2005/022654 A (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD; NAGAI, HIDEO) 10 March 2005 (2005-03-10) page 13, line 1 - page 16, line 27; figures 1,2	1-13

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No
PCT/JP2004/019457

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 2003160256	AI	28-08-2003	US	2003153108 A1		14-08-2003
			US	6614103 B1		02-09-2003
<hr/>						
JP 2002324915	A	08-11-2002	NONE			
<hr/>						
JP 11150303	A	02-06-1999	JP	3505374 B2		08-03-2004
<hr/>						
US 6373188	B1	16-04-2002	CA	2356530 A1		29-06-2000
			EP	1145332 A1		17-10-2001
			JP	2002533938 T		08-10-2002
			WO	0038250 A1		29-06-2000
<hr/>						
JP 2001015817	A	19-01-2001	JP	3399440 B2		21-04-2003
<hr/>						
us 2002139987	A1	03-10-2002	DE	10213464 A1		24-10-2002
			JP	2002359402 A		13-12-2002
			TW	540169 B		01-07-2003
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WO 2005022654	A	10-03-2005	NONE			
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